

1 Evidence for retained spike-binding and neutralizing activity against emerging SARS-CoV-2 variants in
 2 serum of COVID-19 mRNA vaccine recipients

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4 Supplemental Data

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6 **Supplementary Table 1.** Information on the viral isolates used in neutralization assays.

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Isolate #	GISAID ID	Isolate ID	Lineage	RBD substitutions	NTD deletions	NTD substitutions	Spike substitutions
NR-52281	EPI_ISL_404895	USA-WA1/2020	A	None	None	None	None
PV24850	EPI_ISL_3690642	USA/NY-MSHSPSP-PV24850/2020	B.1.526	None	None	T95I, D253G	L5F,T95I,D253G,D614G,A701V
PV25278	EPI_ISL_1300884	USA/NY-MSHSPSP-PV25278/2021	B.1.526.2	S477N	None	T95I, D253G	L5F,T95I,D253G,S477N,D614G,Q957R
PV26425	EPI_ISL_1300892	USA/NY-MSHSPSP-PV26425/2021	B.1.526	E484K	None	T95I, D253G	L5F,T95I,D253G,E484K,D614G,A701V
PV27616	EPI_ISL_1300810	USA/NY-MSHSPSP-PV27616/2021	B.1.1.7	E484K, N501Y	H69:V70-, Y144-	E154Q	E154Q,E484K,N501Y,A570D,D614G,P681H,T716I,S982,D1118H
PV29995	EPI_ISL_2290769	USA/NY-MSHSPSP-PV29995/2021	B.1.617.2	L452R, T478K	E156:F157-	G142D, R158G	T19R,G142D,R158G,L452R,T478K,D614G,P681R,A771S,D950N
PV27007	EPI_ISL_1708926	USA/NY-MSHSPSP-PV27007/2021	B.1.351	K417N, E484K, N501Y	L241: A243-	D80A, D215G	D80A,D215G,K417,E484K,N501Y,D614G,A701V
PV29369	EPI_ISL_1709236	USA/NY-MSHSPSP-PV29369/2021	C.37	L452Q, E471Q, F490S	T63:G75-, R246: G252-	D253N	T76I,D253N,L452Q,E471Q,F490S,D614G,T859N

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11 **Supplemental Table 2:** Information on the spike and RBD proteins used for the binding assays.

Mutations in the sequence of recombinant RBD and spike proteins generated for this study				
Protein	Lineage	RBD substitutions	NTD deletions	NTD substitutions
Spike	WA1	None	None	None
Spike	B.1.1.7	N501Y	69-70, 144	None
Spike	B.1.351	K417N, E484K, N501Y	241-243	L18F, D80A, D215G, R246I
Spike	P.1	K417T, E484K, N501Y	None	L18F, T20N, P26S, D138Y, R190S
Spike	B.1.617.1	L452R, E484Q	None	T95I, G142D, E154K
Spike	A.23	V367F	None	F157L
RBD	WA1	None	NA	NA
RBD	B.1.1.7	N501Y	NA	NA
RBD	B.1.351	K417K, E484K, N501Y	NA	NA
RBD	P.1	K417T, E484K, N501Y	NA	NA

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13 **Supplementary Table 3.** Information on the post vaccine sera used in the neutralization assays (provided
 14 to BEI and distributed by BEI as SARS-CoV-2 Vaccine Human Serum Catalog No. NR-55279).

Catalog number	Sample	Vaccine Type [#]	Serology prior to vaccination	Gender	Age range	Days since first vaccine dose (at time of sample collection)	Days since second vaccine dose (at time of sample collection)
NR-55247	77579	Moderna	Negative	Female	20 to 29	30	2
NR-55248	76350	Moderna	Positive	Male	30 to 39	35	7
NR-55249	26973	Moderna	Negative	Female	40 to 49	32	5
NR-55250	95482	Moderna	Negative	Female	30 to 39	31	3
NR-55251	93764	Moderna	Negative	Female	40 to 49	34	9
NR-55252	38258	Moderna	Negative	Male	30 to 39	34	5
NR-55253	14275	Moderna	Positive	Female	20 to 29	30	2
NR-55254	22686	Moderna	Positive	Female	50 to 59	35	5
NR-55255	80902	Moderna	Negative	Female	20 to 29	32	6
NR-55256	91353	Moderna	Positive	Female	20 to 29	32	5
NR-55257	66902	Moderna	Negative	Female	30 to 39	35	10
NR-55258	47380	Moderna	Negative	Female	30 to 39	37	9
NR-55259	32885	Moderna	Negative	Male	30 to 39	31	3
NR-55260	30756	Moderna	Positive	Female	40 to 49	31	3
NR-55261	72329	Moderna	Negative	Male	20 to 29	33	6
NR-55262	17146	Pfizer	Negative	Female	30 to 39	47	22
NR-55263	35098	Pfizer	Negative	Male	30 to 39	20	6
NR-55264	94525	Pfizer	Negative	Male	40 to 49	28	7
NR-55265	70771	Pfizer	Negative	Male	30 to 39	48	27
NR-55266	13967	Pfizer	Negative	Female	30 to 39	29	8
NR-55267	29021	Pfizer	Negative	Female	50 to 59	42	23
NR-55268	11348	Pfizer	Negative	Male	40 to 49	43	22
NR-55269	67169	Pfizer	Negative	Female	30 to 39	46	22
NR-55270	91699	Pfizer	Positive	Female	20 to 29	49	29
NR-55271	99695	Pfizer	Positive	Male	30 to 39	43	21
NR-55272	58441	Pfizer	Positive	Male	60 to 69	43	25
NR-55273	79044	Pfizer	Positive	Female	30 to 39	43	22
NR-55274	87845	Pfizer	Negative	Female	30 to 39	39	20
NR-55275	48139	Pfizer	Negative	Male	30 to 39	29	9
NR-55276	26461	Pfizer	Negative	Female	60 to 69	43	21

15 # Vaccine type: mRNA SARS-CoV-2 vaccines Moderna (mRNA-1273) or Pfizer (BNT162b2) were
 16 administered

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